

In re PULLELA ET AL., Application No. 10/625,063
Amendment C

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (canceled)

Claim 2 (currently amended): A method for processing packets, the method comprising:

~~identifying a packet;~~

identifying a flow identification value based on the one or more fields extracted from a packet;

performing a lookup operation in one or more memories or associative memories using a lookup value generated based on the flow identification value in order to identify a flow identification value mask, the lookup value including the flow identification value; and

masking the flow identification value with the flow identification value mask to generate a masked flow identification value; and

processing the packet or another packet based on the masked flow identification value.

Claim 3 (canceled)

Claim 4 (currently amended): The method of ~~claim 3~~ claim 2, wherein the flow identification value includes at least two items of the list consisting of source address, destination address, source port, destination port, and protocol type.

Claim 5 (currently amended): The method of ~~claim 3~~ claim 2, wherein the flow identification value includes a transport layer, session layer, presentation layer or application layer value.

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Claim 6 (currently amended): The method of ~~claim 3~~ claim 2, wherein said one or more memories or associative memories tangibly store entries representing an access control list, with said entries include processing indications of permit and deny operations; and wherein said performing the said lookup operation based on the flow identification value includes performing a lookup said lookup operation in an on said access control list entries.

Claim 7 (currently amended): The method of ~~claim 3~~ claim 2, wherein said performing the lookup based on the flow identification value includes:

performing a first lookup operation on a first set of associative memory entries based on the flow identification value to generate an associative memory result; and

performing a second lookup operation in an adjunct memory based on the associative memory result to identify the flow identification value mask.

Claim 8 (currently amended): The method of claim 7, wherein the first set of associative memory entries correspond to access control list entries; and wherein the adjunct memory tangibly stores processing indications of permit and deny operations for said access control list entries.

Claim 9 (canceled)

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Claim 10 (currently amended): An apparatus for processing packets, the apparatus comprising:

- a packet processing engine configured to identify a packet and a flow identification value based on the packet;

- an associative memory configured to perform a first lookup operation ~~based on~~ with a lookup value including the flow identification value to identifying a matching location;

- an adjunct memory configured to perform a second lookup operation based on the matching location to identify a flow identification value mask;

- masking logic configured to mask the flow identification value with the flow identification value mask to generate a masked flow identification value; and

- a value memory configured to update a value at a position corresponding to the masked flow identification value.

Claim 11 (canceled)

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Claim 12 (currently amended): ~~A computer-readable medium tangibly embodying computer-executable instructions for performing steps for processing packets; said steps~~
Logic encoded in one or more tangible media for execution and when execute operable to perform the operations of comprising:

~~identifying a packet;~~

identifying a flow identification value based on the one or more fields extracted from a packet;

performing a lookup operation in one or more memories or associative memories using a lookup value generated based on the flow identification value in order to identify a flow identification value mask, the lookup value including the flow identification value; and

masking the flow identification value with the flow identification value mask to generate a masked flow identification value; and

processing the packet or another packet based on the masked flow identification value.

Claim 13 (canceled):

Claim 14 (currently amended): ~~The computer-readable medium~~ logic of claim 12, wherein the flow identification value includes at least two items of the list consisting of source address, destination address, source port, destination port, and protocol type.

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Claim 15 (currently amended): The ~~computer-readable-medium~~ logic of claim 12, wherein the flow identification value includes a transport layer, session layer, presentation layer or application layer value.

Claim 16 (currently amended): The ~~computer-readable-medium~~ logic of claim 12, wherein said one or more memories or associative memories tangibly store entries representing an access control list, with said entries include processing indications of permit and deny operations; and wherein said performing the said lookup operation based on the flow identification value includes performing a lookup said lookup operation in an on said access control list entries.

Claim 17 (currently amended): The ~~computer-readable-medium~~ logic of claim 12, wherein said performing the lookup based on the flow includes:

performing a first lookup operation on a first set of associative memory entries based on the flow identification value to generate an associative memory result; and

performing a second lookup operation in an adjunct memory based on the associative memory result to identify the flow identification value mask.

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Claims 18-19 (canceled)

Claim 20 (currently amended): An apparatus for processing packets, the method comprising:

~~means for identifying a packet;~~

means for identifying a flow identification value based on the one or more fields extracted from a packet;

means for performing a lookup operation in one or more memories or associative memories using a lookup value generated based on the flow identification value in order to identify a flow identification value mask, the lookup value including the flow identification value; and

means for masking the flow identification value with the flow identification value mask to generate a masked flow identification value; and

means for processing the packet or another packet based on the masked flow identification value.

Claim 21 (canceled)

Claim 22 (previously presented): The apparatus of claim 20, wherein the flow identification value includes at least two items of the list consisting of source address, destination address, source port, destination port, and protocol type.

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Claim 23 (previously presented): The apparatus of claim 20, wherein the flow identification value includes a transport layer, session layer, presentation layer or application layer value.

Claim 24 (currently amended): The apparatus of claim 20, wherein said one or more memories or associative memories tangibly store entries representing an access control list, with said entries include processing indications of permit and deny operations; and said means for performing the lookup based on the flow identification value includes means for performing the said lookup operation based on the flow identification value includes means for performing a lookup said lookup operation in an on said access control list entries.

Claim 25 (previously presented): The apparatus of claim 20, wherein said means for performing the lookup based on the flow identification value includes:

means for performing a first lookup operation on a first set of associative memory entries based on the flow identification value to generate an associative memory result; and
means for performing a second lookup operation in an adjunct memory based on the associative memory result to identify the flow identification value mask.

Claims 26-27 (canceled)

Claim 28 (currently amended): The apparatus of ~~claim 20~~ claim 10, wherein the packet processing engine is configured to process the packet based on the masked flow identification value.

Claim 29 (currently amended): The method of ~~claim 13~~ claim 12, wherein said steps include: processing the packet based on said generated masked flow identification value.

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Claim 30 (new): The logic of claim 17, wherein the first set of associative memory entries correspond to access control list entries; and wherein the adjunct memory tangibly stores processing indications of permit and deny operations for said access control list entries.

Claim 31 (new): The apparatus of claim 10, wherein the associative memory and the adjunct memory include entries representing access control list entries, with said entries of the adjunct memory including processing indications including permit and deny operations.

Claim 32 (new): The apparatus of claim 25, wherein the first set of associative memory entries correspond to access control list entries; and wherein the adjunct memory tangibly stores processing indications of permit and deny operations for said access control list entries.